**Chapter 9 Quiz Study Guide Answer Key**



Lessons 9-1 through 9-2

**Tell whether the transformation appears to be a rigid motion. Explain.**

|  |  |
| --- | --- |
| **1. Yes. This is a reflection.** | **2. No, this includes a *change in size*.** |

**3.** If a transformation maps Δ*ABC* to Δ*A′B′C′,* what is the image of *A?*

**The image of A is A’**

**4.** If a transformation maps Δ*ABC* to Δ*A′B′C′,* what is the image of ?

**The image of  is ’**

**5.** Point *P*(*x, y*) moves 7 units left and 3 units up. What is a rule that describes this translation?

**The rule T<-7,3> describes that translation.**

**Draw the image of each figure for the given transformation.**

|  |  |
| --- | --- |
| 113**6.** *T*<3, 2>(Δ*ABC*) | 114**7.** *Ry*-axis(Δ*ABC*) |
|  | 115 |

**8.** Δ*XYZ* has vertices *X*(–2, 2), *Y*(–1, 5), and *Z*(2, 3).  
Write a transformation rule that reflects it across x=3 and then draw the image. Is there an equivalent translation rule?

**The rule is Rx=3(XYZ). There is no equivalent**

**translation rule because a reflection is involved.**

117**9.** In the diagram to the right, is the rightmost object:

a) a reflection image

116b) a translation image

***c) a combination of transformations***

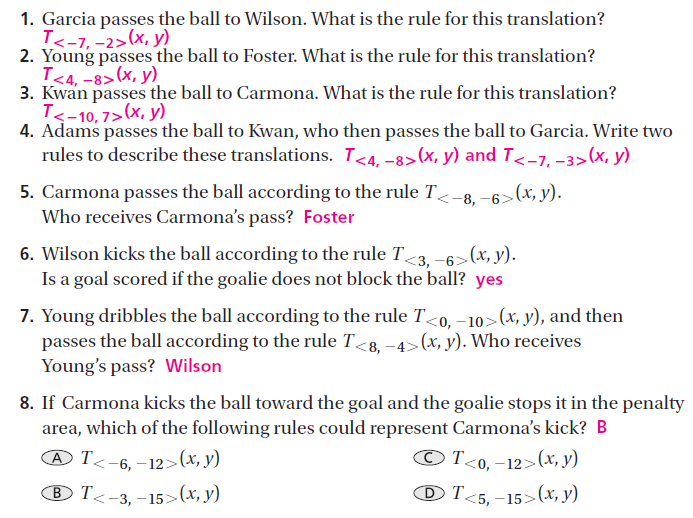
d) not a result of transformations

**10.** The point (1, 1) is the image after the translation *T<*3, –3>. What is the preimage of this point?

**The preimage is the *opposite* translation, or T<-3,3>, applied to the image. So the preimge is (1-3,1+3) or (-2,4).**

**Soccer Field Translations**

Below is a diagram of half a soccer field with seven offensive players. By passing and dribbling the ball, the players try to score by getting the ball into the goal. When a player passes, dribbles, or kicks the ball, the ball is being translated on the soccer field.



**19**. What is the image of (2, 3) after a reflection across the *y*-axis?

**The image is (2,-3). Note the x-coordinate does not change, only the y!**

**20.** Where is ABCD after Ry-axis; Rx-axis; Ry-axis; Rx-axis? Does it matter where the object is originally?

**No, because after four reflections the result is the original object in its original place.**